

Computer Based Testing Planning

Guidance from NYSED

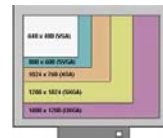
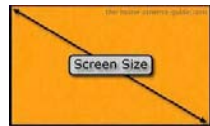
- Memo – January 2013 – posted on [wiki](http://www.wnyric.wikispaces.com) (www.wnyric.wikispaces.com)
 - PARCC Technology Guidelines v. 2.0 Dec 2012 and short version
 - TRT data entry and use – under revision (compare devices to cohort for now)
- Funding guidance and PD options
- Microsoft settlement vouchers – from funds to lawsuit settled in 2006 (87 million unclaimed) [Vouchers](#)
 - Predetermined by terms of the settlement:
 - F and R lunch %age
 - Only public schools and Charters– no Non Pubs
 - The application will be part of the online voucher system which will be available in April 2013.
 - Vouchers can be used up until Nov. 1, 14 – partial or in full



Devices



- Minimum/recommended specifications



- Minimum specification support ends 15/16 (Apr '14 end of life = Windows XP)
 - PARCC – says don't use it after minimum standards end
 - WNYRIC Support of Windows XP on shared network
- Replacement cycle
- Peripherals (keyboards/microphones/headphones)





Devices

Things for districts to think about:

- **Planning for devices**
 - Device Spacing
 - iPad Mini, Kindle, and Smartphones = not supported
 - Device Continuity (i.e. user familiarity with device)
 - Keyboarding skills and instruction
 - Spares?
- **Possible tools to think of using:**
 - TEM Reporting – for asset discovery (provided in energy grant)
 - N Computing – multiple keyboards/devices
 - Stoneware/Classlink – virtual desktops
 - Use the MS Settlement \$ if listed to receive



Devices

Preparation to think about:

- Power
- Charging options
- Test battery life



Guidance and what can districts do today:

- Budget to buy batteries/spares/chargers
- Budget for network wired/wireless connections
- Security
 - Lock Down Policies (i.e. GPO, zenworks)
 - ARD, Supervise/MDM
 - Content Filtering - Ron



Lightspeed Content Filtering

- Insure you are upgraded to the “Next Generation Suite” Operating System
- **Bind your filtering to your directory services**

- Create a PARCC Rule set
- Filter based upon the following options:
 - IP address
 - IP Range
 - Computer OU
 - User Group
 - User Name
 - User OU

- **Web Zones**

A Web Zone is a vehicle for controlling classroom Internet access beyond assigned Web Filter policies. With a Zone, a teacher can completely shut off Internet access, limit access to just a few web sites, or open access beyond normal Web Filter policies.

- Fixed Zones - by IP address range
- Open Zones - Zone Managers, create them, populate them with content and then activate them.

Network Objectives

- Review national studies and “recommended” practices
 - There is a lot of attention focused on Broadband access
 - Consortium for School Networking (COSN)
 - State Educational Technology Directors Association (SETDA)
- Relate what has/is happening in WNY to the national scenes
 - Tangible results through everyone’s efforts
 - Regional collaboration to leave no district behind
- Provide a framework for meeting the infrastructure demands of online assessments

Some Statistics

- “80% of schools in the country lack adequate broadband to meet education and business needs today” (COSN)
- “3:1 ratio of students to devices will drive the need for additional bandwidth as BYOD grows in schools” (COSN)
 - More likely to see 3:1 ratio of devices to students
- Enhanced technologies will drive bandwidth.

How Much Internet (SETDA)

- “One useful metric is *bandwidth-per-student/teacher*, which directly correlates with the quality of a student’s online experience”
 - “It defines a framework for assessing bandwidth requirements based on what the users, both students and teachers, truly need to engage in ... internet activity”
- “Leaders must consider *the number of concurrent and peak connection times* in schools when evaluating their broadband needs”
 - Source: The Broadband Imperative, p. 21
SETDA, www.setda.org

Bandwidth Reference (SETDA)

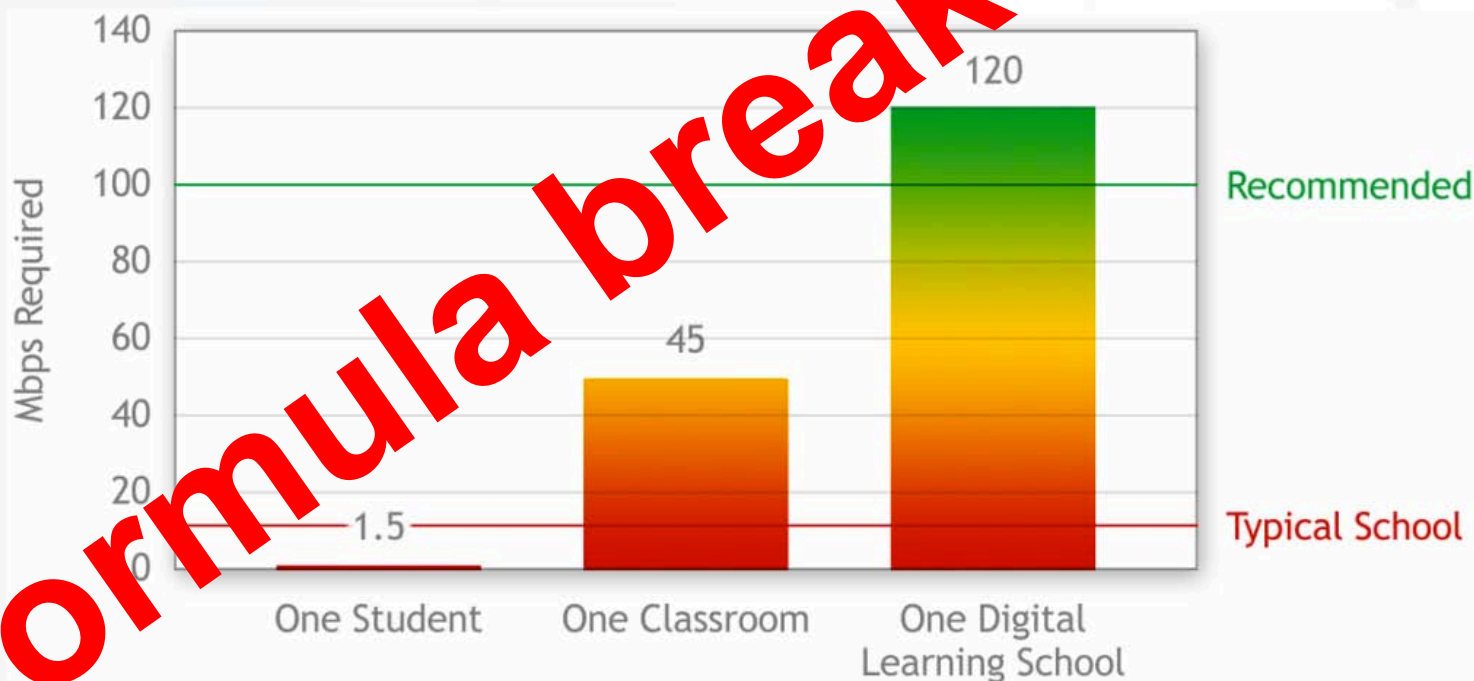
- **Basic Connectivity for Supplemental Enrichment**
 - Internet research, e-mail, website, etc.
 - 10 Kbps per student/teacher
- **Emerging Reliance on Online Educational Tools and Resources**
 - Partial 1-to-1 program, download video, dynamic content, collaboration, online assessments, etc.
 - 50 Kbps per student/teacher
- **Transformation to a Technology-Rich Learning Environment**
 - Rich, multimedia-enhanced educational content, post content (audio and video) to learning management systems, e-textbooks, online assignments, etc.
 - 100 Kbps per student/teacher



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Why K-12 Needs Robust Internet

Digital Learning Requires 100Mbps Internet Access



SETDA vs. Real World Experience

Broadband Access for Teaching, Learning and School Operations	2014-15 School Year Target	2017-18 School Year Target
An external Internet connection to the Internet Service Provider (ISP) WNYRIC	At least 100 Mbps per 1,000 students/staff 25 Gbps	At least 1 Gbps per 1,000 students/staff 250 Gbps
Internal wide area network (WAN) connections from the district to each school and among schools within the district	At least 1 Gbps per 1,000 students/staff District network infrastructure	At least 10 Gbps per 1,000 students/staff

- WNYRIC real-world all you can consume model predicts a regional need of
 - 3.5 Gbps by 2014-15
 - 7.0 Gbps by 2017-18

NYSED Report

- TO: Board of Regents, FROM: John B. King, Jr. DATE: February 23, 2010
- “School Capacity. A bandwidth of 100 megabits per second (100 mbps) [per building] is a recognized minimum standard by the Regional Information Centers (RICs)”

UDATED 2012 DATA	TOTAL # OF BUILDING SITES	# OF REMOTE BUILDINGS WITH LESS THAN 100 MBPS	% LESS THAN 100 MBPS
State Total	3,102	281	9.06%
WNYRIC	477	16	3.35%
	TOTAL # T-1 AND LESS	TOTAL # < 20 MBPS & > T1	TOTAL # < 100 MBPS & > 20 MBPS
State Total	89	109	83
WNYRIC	3	7	6



How K-12 Networks Fail

Internet
Monitor utilization
Have two 10 Gbps
Purchase capacity

WNYRIC

District
97 of 100
districts at 1
Gbps
Monitor

1. Not end
connectiv
district of

Schools

461 of 477
buildings
in region
are
connected
at
1 Gbps

Wiring

District by
district
case

Check your
testing
areas

Wired
equipment

95% with
100 Mbps
ports

Analyze

Wireless

Look for
rogue
equipment

Gear up for
action!

FW/Filter

Shared
regional
best
practice
and
settings

Wireless

- **Challenge: laptops, netbooks, TABLETS**
 - Devices changing to ONLY wireless
 - Expectation to work as well as wired - NOT!
- **Design challenges for RELIABILITY**
 - Coverage, throughput, density
 - Interference!!!
- **Strategy: consult, plan, invest**
 - WNYRIC has established a best practice design document, continuous update
 - Site surveys are key



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Computer Based Testing Planning

Define The Goal

- Learning Objective
- Bandwidth Plan

Inventory Existing Infrastructure

- Footprint / Wiring
- Connectivity
- Network Equipment
- Bandwidth Utilization
- Nearest Fiber

Create & Review Upgrade Plan

- Gap analysis between inventory & goals
- Plan reviewed by independent technical expert

Aggregate Demand

- Facilitate consortia formation
- Require waivers for sub-scale purchases

Conduct RFP

- True competition is essential
- Research pricing to other districts

Select Vendors

- Proposals review by technical and procurement experts

Validate Deployment

- Conduct network acceptance testing

Establish Ongoing Management

- Network status
- Bandwidth usage

Questions and information:

- Folders and explanation
- Q and A

Technology Readiness Tool (TRT)

- Complete the tool especially if you are getting Microsoft vouchers.
- If your district doesn't have an authorized user or it needs to change email edtech@mail.nysed.gov
- Readiness does not mean readiness – check your “testing devices ready” against your largest cohorts in your testing bands for a better gauge of device gap.
- Testing window – keep at 6 since PARCC just put in “testing starts” which has to do with the performance based testing 5 x /year and if you have less than 6 it wouldn't make any sense.

TRT - Continued....

- PARCC is still working on it – they will have vendor go in and make a global change to testing window - # of days” when decided. There is also another tool coming intended to determine a good testing window for a school building.
- There was a snapshot taken again on 2/15/13
- Network indicator report TBD – if you go to recommended you will see it.

The Testing Environment and Items

- **What we don't know:**
 - Spacing between students
 - Testing accommodations for special needs/ELLs
 - Can multiple locations be used for a testing cohort?
 - Final decision on testing items – PARCC or NOT – Answer: The BOR must wait until both PARCC and CBT has more finality until they make a decision. (must see PARCC, 3-8 and Regents – very soonest would be winter 2013)
- **Things a district should think about?**
 - Where may be some logical locations?
 - How many special needs accommodations would you need?

Questions already sent to NYSED

- Recommendations for headphones - districts supplying or parents providing due to sanitary reasons
- EES licensing – Can this be purchased through the voucher program for the software voucher? – Answer – We’ ll know more in April.
- Opt out possibilities to still use pencil/paper? Answer: No CBT police but do you believe that technology is an integral part of instruction moving forward. If yes; think strategically and make a plan. If gap is too large, NYSED may have to move target but won’ t until earnest planning is done.

Questions asked of NYSED

Questions for NYSED

Digital Activity Requirements

Activity	Recommended Download speeds
Email and Web Browsing	500 Kbps ⁴⁴
Download a 1 MB digital book in 5.3 seconds	1.5 Mbps ⁴⁵
Online Learning	250 Kbps ⁴⁶
HD-quality Video Streaming	4 Mbps ⁴⁷
Skype Group-Video Session, 7+ people	8 Mbps ⁴⁸
Download a 6144 MB Movie in 8 minutes	100 Mbps ⁴⁹
Current Generation Multiple Choice Assessments	64 Kbps/student ⁵⁰

* Averages are indicated for single users

- Source: The Broadband Imperative, p. 21
- SETDA, www.setda.org



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Where We Stand

K-12 Infrastructure Readiness

